Product Description

Enterprise Storage / Backup & Recovery

Creation Date: 6, June 2002
Last Updated: 9 July 2002
Document Version: 1.5

*** *DRAFT COPY* ***

Managed Open System Storage

Summary

Managed Open System Storage provides customers with fully managed and monitored enterprise storage space as well as enterprise-class resource management tools. This service is available for open systems data and can be configured to meet very specific agency needs, including fail over and redundancy strategies or robust and reliable backup and recovery plans.

As part of the Managed Open System Storage product, ITS will help customers install and configure the necessary client tools, provide expert configuration, 24/7 monitoring, and valuable consultative services that allow customers to back-up and recover mission-critical application data from ITS managed storage resources or from internal disks within their own servers. This product offers the necessary flexibility for agencies to manage their own customized backup and recovery plans while taking advantage of disk and tape resources in Salt Lake City and/or Richfield.

Overview

Managed Open System Storage provided by ITS is designed for customers who require at least 25 GB of enterprise storage space for open system source data, and who require robust and flexible backup and recovery plans. Additional enterprise storage capacity can be committed for agency use in 25 GB increments. The enterprise storage resources provided by ITS are fully managed and monitored and are available in the Salt Lake City and Richfield data centers.

The client software required to connect customer's servers to ITS' Tivoli Storage Manager (TSM) backup resources is available for download on the Internet. If necessary, ITS can help customers install the client. Once the client is installed on all agency servers that require backup, ITS will work closely with the agency to implement a backup and recovery plan using Tivoli Storage Manager disk and tape resources.

Customers may choose to create an additional backup copy of their data at a remote ITS data center. Customer access to remote Tivoli Storage Manager disk and tape resources will require sufficient network capacity to move backup data from the client site to the ITS site.

Managed Open System Storage

Managed Open System Storage allows customers with mission critical data to have reliable, managed and monitored, enterprise storage space in Salt Lake City and/or Richfield while taking advantage of the diverse backup capabilities of Tivoli Storage Manager that are also available in each data center.

?? **Committed Disk Space**
- ITS will commit enterprise storage space in 25 GB increments based on customer-defined needs. (25 GB minimum)

?? **Automated Resource Allocation for Back-ups**
- Back-up disk and tape resources are managed centrally as needed by the Tivoli Storage Manager to house data from customer servers.

- Tivoli Storage Manager disk and tape resources provide high availability, fully monitored and managed data storage capacity for customer computer systems.

?? **Data Restoration** *(From Same Site or Remote Backup)*
- Damaged or lost source data can be restored to customer servers at any time from any web-based computer.

- Restores are initiated by a customer's LAN or UNIX administrator and can be made to the original source server, or to an alternate server.

Note: ITS is unable to protect against propagation of bad data from source to backup files.

?? **Data Protection**
- Tivoli Storage Manager assures that customer data will be safeguarded with comprehensive backups and restores, providing a higher level of data security and reliability than typical in-house backup and restore solutions.

- Customer data can be encrypted on certain client platforms prior to being sent to the Tivoli Storage Manager server in the ITS data center, and when it is transferred from one ITS data center to another.

- ITS can work closely with agencies to create data retention policies that allow data to remain on Tivoli Storage Manager resources for a pre-defined period of time.

Managed Open System Storage Cost Summary			
Billable Item	**Minimum Commitment**	**Monthly Price**	**Price**
Enterprise Storage Space	25 GB	Total Commitment x per 25GB rate	$900
Tivoli Storage Manager Backup	N/A (automated)		.005 / MB
Tivoli Client Licenses			
NT Client License	1 per server	One time fee	$185
Netware Client License	1 per server	One time fee	$185
UNIX Client License	1 per server	One time fee	$395
** Additional licenses may be required to back up databases or application servers.			

*** DRAFT COPY ***

Managed Mainframe Storage

Summary
Managed Mainframe Storage provides customers with high availability, high performance storage capacity for source and backup data on enterprise-class disk and tape resources. This service offers customers fast and easy access to critical data with the flexibility to perform manual backups of source data, or to take advantage of automated processes that eliminate the need to manually manage files.

Overview
Managed Mainframe Storage provided by ITS is designed for customers who require reliable storage solutions combined with robust and flexible backup and recovery plans. Customers requiring disk space for mainframe applications may allocate disk space according to their specific needs. ITS can provide fully monitored storage solutions based on customer-defined data management requirements in conjunction with a customized backup and recovery plan that leverages disk and tape resources in Salt Lake City and/or Richfield.

Managed Mainframe Storage
Managed Mainframe Storage allows customers with mission critical data to have reliable, managed and monitored, enterprise storage space while taking advantage of the diverse backup capabilities of HSM. Customers can leverage mainframe disk and/or tape resources in the Salt Lake City or Richfield data centers to establish redundancy and fail over strategies that are necessary to the success of their applications.

?? **Committed Disk Space**
- Customers allocate disk space or write directly to tape for mainframe storage as needed. Billing occurs for the entire amount of storage resources that are occupied by customer data.

?? **Automated Resource Allocation**
- Disk and tape resources are allocated as needed to back-up customer data stored on ITS enterprise storage devices.

- Automated Resource Allocation provides high availability, fully monitored and managed data storage capacity for customer source data allocations. This cost-saving service provisions available storage as needed.

?? **Source Data Backup** *(Same Site or Remote Site)*
Full backup of source data stored with ITS or on customer computer systems is performed using HSM in accordance with customer-defined needs. ITS will consult with each customer to establish frequency, location, and type of each backup.

?? **Multiple Same Site Backup Copies**
Provides for two (2) or more duplicate backup copies of source data written to storage resources at the same site as customer source data or to a remote site in accordance with customer-defined requirements.

?? **Same Site Mirrored Backup Copies** *(Real Time Copy)*
Provides for establishment of a mirrored disk copy of the source data disk resources at the same site or at a remote site. Updates to the source data are written to both the source copy and the mirrored copy simultaneously.

?? **Data Restoration** *(From Same Site or Remote Backup)*
Damaged or lost source data will be restored to ITS enterprise storage resources from the most appropriate same site or remote backup.

Note: ITS is unable to protect against propagation of bad data from source to backup files.

?? **Data Protection**
- HSM assures that customer data will be safeguarded with comprehensive backups and restores, providing a higher level of data security and reliability than typical in-house backup and restore solutions.

- ITS can work closely with agencies to create data retention policies that allow data to remain on HSM backup resources for a pre-defined period of time.

Managed Mainframe Storage Cost Summary			
Billable Item	**Minimum Commitment**	**Monthly Price**	**Price**
Enterprise Storage Space (Disk or Tape)	N/A (automated)	Total Commitment x per MB price	.04 / MB

Backup & Recovery Services (Open Systems Only)

Summary
ITS Backup and Recovery Services provide enterprise class systems management tools along with expert configuration, monitoring, and consultative services that allow customers to back-up and recover mission-critical application data from open system environments. ITS will work closely with each customer to configure a customized backup policy that allows customers to back-up source data from their own servers to the monitored disk and tape resources provided by ITS. Each custom backup and recovery plan will allow the customer to choose between single site and/or remote backups, while managing their own backup and recovery solution.

Overview
Backup and Recovery Services provided by ITS are designed to allow customers the flexibility to configure a scalable, robust, and customized storage solution for all mission-critical, open system data. The Tivoli client required to connect customer's servers to ITS' Tivoli Storage Manager backup resources is available for download on the Internet. If necessary, ITS can help customers install the client. Once the client is installed on all agency servers that require backup, ITS will work closely with the agency to implement a backup and recovery plan using Tivoli Storage Manager disk and tape pools in Salt Lake City and/or Richfield.

Customers may choose to create an additional backup copy of their data at a remote ITS data center. Customer access to remote Tivoli Storage Manager disk and tape resources will require sufficient network capacity to move backup data from the client site to the ITS site.

Single Site or Remote Backup and Recovery (*for open systems only*)
The Single Site Backup and Recovery service allows customers to back-up data from their open systems environments to fully monitored and managed disk and tape resources in Salt Lake City or Richfield.

?? **Automated Resource Allocation**
- Disk and tape resources are managed centrally as needed by the Tivoli Storage Manager to house data from customer servers.

- Tivoli Storage Manager disk and tape resources provide high availability, fully monitored and managed data storage capacity for customer computer systems.

?? **Data Restoration** *(From Same Site or Remote Backup)*
- Damaged or lost source data can be restored to customer servers at any time from any web-based computer.

- Restores are initiated by customer's LAN or UNIX administrator and can be made to the original source server, or to an alternate server.

Note: ITS is unable to protect against propagation of bad data from source to backup files.

?? **Data Protection**
- Tivoli Storage Manager assures that customer data will be safeguarded with comprehensive backups and restores, providing a higher level of data security and reliability than typical in-house backup and restore solutions.

- Customer data can be encrypted on certain client platforms, prior to being sent to the Tivoli Storage Manager server in the ITS data center, and when it is transferred from one ITS data center to another.

- ITS can work closely with agencies to create data retention policies that allow data to remain on Tivoli Storage Manager resources for a pre-defined period of time.

Open Systems Backup and Recovery Costs			
Billable Item	**Minimum Commitment**	**Monthly Price**	**Price**
Tivoli Storage Manager Backup	N/A (automated)	Usage x per MB rate	.005 MB
Tivoli Client Licenses			
NT Client License	1 per server	One time fee	$185
Netware Client License	1 per server	One time fee	$185
UNIX Client License	1 per server	One time fee	$395
** Additional licenses may be required to back up databases or application servers.			

Data Archival Services (Mainframe Only)

Summary

"Data Archival" can be defined very differently when referring to any number of computer systems or software packages. The Data Archival Services provided by ITS are defined very specifically by the following two criteria:

1. Archive is a point-in-time copy of mainframe source data that is moved from a disk or tape resource to a dedicated tape.
2. Tapes containing archived data are then physically removed from the ITS data center by the customer.

Data Archival Services allow customers to move a point in time data set from its mainframe source to a dedicated tape for long-term storage. Therefore, data that is infrequently accessed, but that must be maintained for legal and other business reasons, can be archived via tape. This can be implemented as part of an overall space management service or as a stand-alone data archiving service.

Data Archival Services are designed to work well for customers who may want to physically locate mainframe data in an off-site vault or safe, ITS cannot guarantee that data archived to tape can be retrieved after it has left an ITS controlled data center. Customers should consult with ITS regarding their specific archival needs before choosing this service.

Open systems data can be archived using Tivoli Storage Manager, however it will not be possible to physically remove tapes containing archived data from ITS' data center. "Archival" of open systems data can be provided as part of the Managed Open Systems Storage or the Backup and Recovery products provided by ITS.

Overview

The Data Archival service provided by ITS is designed to allow customers to move infrequently accessed data from its mainframe source to a more cost-effective tape solution. ITS will provide dedicated tape resources for customers to store mainframe data and remove it from the data center.

- ?? **Dedicated Tape**
  Customers purchase tapes based on customer-defined storage needs.

- ?? **Tape Mounts**
  ITS assists customers in accessing data archived on tape by performing necessary tape mounts.

Dedicated Archival Data Storage Costs			
Billable Item	**Tape Size**	**Billing Method**	**Rate**
Dedicated Tape	80 GB (Compressed)	Tape Price	$75
Tape Mount		per mount	.30